

REMARKS

This is intended as a full and complete response to the Final Office Action dated August 17, 2010, having a shortened statutory period for response set to expire on November 17, 2010. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1, 4-9, 33, 34, 36, 37, and 64 are rejected and claims 38-43 and 51-63 are allowed.

Claims 1, 4-9, 33, 34, 36-43, and 51-64 remain pending in the application after entry of this response. Claims 1 and 64 have been amended. No new matter has been added by the amendments.

Claim Rejections Under 35 U.S.C. § 103

Claims 1, 4-9, and 33-34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rivas* (U.S. 6,230,810) in view of *Liu* (U.S. 6,388,353) and *Eno* (U.S. 5,923,111). *Rivas*, *Liu*, and *Eno*, either alone or in combination, do not teach, suggest, or disclose the phases are driven by an inverter that switches a voltage in the range of 1000 V -- 4000 V, as recited in amended claim 1.

Rivas discloses pumping production fluid from a series of wells into a collection well and separating the production fluid into liquid and gas in the collection well. *Liu* discloses a permanent magnet (PM) synchronous motor for a progressive cavity pump including a rotor having offset sections to compensate for deformation of the drive shaft under driving load. *Eno* arguably teaches the use of PM AC motors at higher speeds (for example 10,000 rpm) than those typically associated with induction motors and arguably teaches that each of the at least three phases are continuously driven.

Furthermore, from page 32, line 22 to page 34, line 2 of the present application (WO2004/113670), it is clear that, when faced with the problem of improving efficiency when driving a high speed PM AC motor having long cables such as a high speed PM AC motor for an electrical submersible pump as disclosed in *Eno*, a skilled person would not be motivated to continuously drive each of the at least three motor phases using an inverter that switches a voltage in the range of 1000 V -- 4000 V because

switching such medium voltages at high speed would incur large switching losses. Instead, a skilled person would simply use a step-up transformer between the variable speed drive and the cables of the motor (see, for example, the step-up transformer 30 shown in Figure 1 of *Liu*). Therefore, amended claim 1 and its dependents are patentable over *Rivas*, *Liu*, and *Eno*.

Claim 36 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rivas* in view of *Liu*, *Eno*, and *Koide*, (U.S. 6,188,196). *Rivas*, *Liu*, *Eno*, and *Koide*, either alone or in combination, do not teach, suggest, or disclose the phases are driven by an inverter that switches a voltage in the range of 1000 V -- 4000 V, as recited in amended claim 1. Therefore, amended claim 1 and its dependents are patentable over *Rivas*, *Liu*, *Eno*, and *Koide*.


Claim 37 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rivas* in view of *Liu*, *Eno*, and *Endo* (U.S. 4,879,502). *Rivas*, *Liu*, *Eno*, and *Endo*, either alone or in combination, do not teach, suggest, or disclose the phases are driven by an inverter that switches a voltage in the range of 1000 V -- 4000 V, as recited in amended claim 1. Therefore, amended claim 1 and its dependents are patentable over *Rivas*, *Liu*, *Eno*, and *Endo*.

Claim 64 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rivas* in view of *Liu*, *Eno*, and Japanese Patent 2001238484 to *Sato*. *Rivas*, *Liu*, *Eno*, and *Sato*, either alone or in combination, do not teach, suggest, or disclose the phases are driven by an inverter that switches a voltage in the range of 1000 V -- 4000 V, as recited in amended claim 1. Therefore, amended claim 1 and its dependents are patentable over *Rivas*, *Liu*, *Eno*, and *Sato*.

Conclusion

Having addressed all issues set out in the Final Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jason C. Huang", is written over a horizontal line.

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